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ABSTRACT

This paper, on a 1988-89 study of 219 undergraduates, addresses issues of cognitive development, learning style, and attitudes toward social diversity and social justice. A parallel study was conducted in spring/fall 1989 with subsequent changes noted. The table of contents presents the following sections: (1) "Background and Educational Context"; (2) "Conceptual Framework: Social Cognitive Development"; and (3) "Methodology and Discussion of Findings: Stage One of Research." Pre- and post-test results were analyzed for four assessment instruments: (1) Baxter-Magolda's Measure of Epistemological Reflection (MER); (2) Rest's Defining Issues Test (DIT); (3) Hudson and Ricketts' Index of Homophobia (IMT); and (4) Kolb's Learning Style Inventory (LSI). Numerous tables, figures, and illustrative diagrams support the narrative. An extensive bibliography is included. (EH)

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"SOME COGNITIVE DEVELOPMENTAL CHARACTERISTICS OF SOCIAL DIVERSITY EDUCATION"

By Maurianne Adams and Yu-hui A. Zhou

SUMMARY

This cognitive developmental, learning style and attitudinal study of 219 college students enrolled in a general education "diversity core" undergraduate course on social diversity and social justice was undertaken in 1988-89, with a parallel study during Spring-Fall 1989, at a large Northeastern public research university. It presents pre-and post-test results from four assessment instruments: Baxter-Magolda's Measure of Epistemological Reflection (MER), a Perry measure for cognitive development; Rest's Defining Issues Test (DIT), a moral judgment measure adapted from Kohlberg; Hudson and Ricketts' Index of Homophobia (IMT) and Kolb's Learning Style Inventory (LSI). The college student sample includes two sub-groups: students who enroll in open sections and resident assistants who take the course as part of their inservice training. The paper describes each instrument and reports demographic profiles together with Time 1 and Time 2 descriptive statistics for each of the four assessment instruments. Descriptive statistics for the epistemological developmental measure also include two component domains of the MER measure -- Domain 4 "Role of Peers" and Domain 6 "Nature of Knowledge"-- which are hypothesized to be of particular relevance to the Social Diversity course. The findings show the expected positive direction of change on developmental and attitudinal instruments and unexpected change in the Learning Style Inventory.

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SOME COGNITIVE DEVELOPMENTAL CHARACTERISTICS OF SOCIAL DIVERSITY EDUCATION

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SOME COGNITIVE DEVELOPMENTAL CHARACTERISTICS OF SOCIAL DIVERSITY EDUCATION

College and University campuses over the past decade have shown evidence of continuing violence and harassment against students on the basis of gender, race, sexual orientation, religion and sexual orientation. I refer not only to some of the more dramatic and well-documented racial confrontations at Dartmouth College and the Universities of Michigan and Massachusetts, but to the increasing reports of date-rape and sexual violence, the harassment of gay, lesbian or bisexual students in the residence halls and at campus social events, the anti-Semitic graffiti and menacing telephone threats, the racial slurs and demeaning assumptions about reverse racism and affirmative action cases. These aspects of campus life, whether they occur in the residence hall or classroom, may be more readily known by Deans of Students or residence hall staff than by faculty, who may not be in a position to see the intergroup dynamics played out among students who bring their preconceived stereotypes, assumptions and beliefs to campus from their home communities.

In a large state University these dynamics often reflect the intergroup stresses experienced within the larger state and national context. Two decades after the Kerner Commission (1968), an ACE Commission on Minority Participation in Education and American Life reports "that America is moving backward -- not

forward -- in its efforts to achieve the full participation of minority students in the life and prosperity of the nation" (One-Third of a Nation, 1988). The ACE Commission focusses upon colleges and universities as "a vital social laboratory in which solutions to knotty national problems have been tested and perfected" (ACE, 1988) and especially urges creative efforts to value diversity in the academic atmosphere and campus culture.

These dimensions of cross- or multicultural campus life provide a context for the exploratory study described below, which is directed to better understanding the characteristics of learning and change experienced by students in a credited course on Social Diversity. Even if campuses were entirely and equally safe for all students and if communication among members of diverse social and cultural groups successful, educational interventions focussed on Social Diversity would still have intrinsic value. But in the current climate there is special urgency in our better understanding the ways in which our students can unlearn their stereotypes and prejudiced attitudes, try on different cultural perspectives and develop strategies to intervene in harassing and discriminatory behaviors.

Briefly told, this paper is part of a larger exploratory study which will examine social cognitive development in two groups of college undergraduates involved in a fourteen-week credited academic course on Social Diversity. One group consists of undergraduate student staff who take the credited course as part of their University General Education curriculum and also as part of their in-service training. This first group actively

attempts to apply classroom learnings and skills to real-world residence hall settings. The second group of undergraduates experience the same curriculum in the context of their General Education requirement but without the same degree of intentional application outside the classroom.

The course is based on an educational approach which integrates cognitive development with the experiential aspects of social learning. Course content consists of social and cultural identity, social diversity and societal manifestations of oppression in the areas of gender, race, religion, sexual orientation, and physical/mental disab[illegible]. Explicit learning objectives for the course include (1) [illegible]eness of one's own cultural values and perspectives and those of other social groups; (2) Information about the history, cultural values and social context of various social groups including one's own; (3) Understanding of the principles of socialization and the dynamics of social oppression; (4) Recognition of real-world situations embodying differing social and cultural perspectives or manifesting social oppression; and (5) Interventions, seen as skills on a continuum from non-collusion in socially insensitive situations to actions which educate others or transform oppressive situations. The cognitive development aspects of the course are described more fully below.

Research Questions.

The primary long-range goal for our exploratory research is to identify and document the developmental changes, transitions or consolidations demonstrated by students whose

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experience of the course is augmented by direct application of classroom learning and skills to real-world situations. We will compare their developmental profiles with developmental profiles for a second group of students who experience the same curriculum but who are not directly engaged in similar practice.

To assist us in the overall process of research exploration and discovery, we have developed the following research questions, which we will revise at each stage of research as our findings guide our understanding of the problem. These questions at present are:

(1) What social cognitive domains and skills are most directly related to the Social Diversity course content and procedures?

(2) How do students at different developmental positions interact with course content and procedures?

(3) Are there identifiable developmental preconditions or outcomes in the domains of self-knowledge, social identity, social perspective taking, moral judgment and complex problem-solving for students' achievement of the course goals?

(4) Are there identifiable developmental domains or skills related to social diversity course content and procedures, other than those named above?

(5) Are there metacognitive or strategic skills involved in the application of knowledge and skills from the classroom to real-world settings?

It is important to emphasize the long-range exploratory nature of this research and of the inquiry suggested by these

questions. These long-range research questions are presented as a framework for the initial research and preliminary findings discussed in this paper. The paper presents the first step in this investigation and suggests further steps which are discussed at the conclusion of this paper.

This initial research step is directed toward four immediate goals, three of which result in findings reported in this paper and a fourth which is currently in progress:

(1) establish base-line descriptive cognitive developmental profiles for the primary and the parallel undergraduate populations;

(2) identify areas of commonality or difference in the base-line develomental profiles of the two student populations;

(3) use several methodologies to provide a preliminary assessment of fruitful areas for further inquiry;

(4) establish a framework for future qualitative study.

These research questions reflect our view, derived from years of teaching social diversity courses but not empirically tested, that achievement or non-achievement of our course objectives is related to various developmental profiles in domains of self-knowledge, social identity, social perspective taking and moral judgment and to developmental skills such as complex problem-solving and recognition of real-world examples in critical incidents. Further, it is possible that the social diversity course supports, and possibly facilitates, development in related developmental domains. Finally, the capacity of

students to apply new skills of self-awareness, social perspective-taking and complex problem-solving to real-world settings appears to call into operation a second level of strategic learning or metacognitive skills. It seems desireable therefore to better understand the cognitive, psychosocial and strategic or executive skills relevant to real-world transfer and application as well as those involved in classroom learning (Rest, 1986; Perkins & Salomon, 1989; Alexander & Judy, 1988).

The first section of this report will more fully describe the background and developmental context for the social diversity course. The second section will review the conceptual framework of social cognitive development theory which shapes the research and governs research goals, questions, and selection of assessment methods. The third section will present and discuss the methodology and findings for this first stage of research, with comments on the second stage currently in progress and implications for future research. Further research in progress or projected includes a replication study of the developmental profiles and a control group of students not involved in social diversity education.

SECTION I. BACKGROUND AND EDUCATIONAL CONTEXT.

The Social Diversity course was initially designed to provide experiential learning about social and cultural diversity for undergraduate Resident Assistants in a large state university (undergraduate enrollment 25,000) with a resident undergraduate population of 11,600. It integrated instructional innovations

and social identity development theory piloted by colleagues (Weinstein, 1988; Weinstein & Bell, 1985; Jackson & Hardiman, 1988) directed to the pragmantic concerns of residence life. The Resident Assistants are student staff who, beyond their other duties, assume leadership in modelling positive relationships among members of diverse social and cultural groups. As front-line residence hall staff, student leaders, role models and peer educators, they are situated to apply whatever they can directly to their residence hall communities. Eventually the course was extended to the general student population as an elective within the General Education curriculum of the University. Although it is still an experiential educational intervention, the course also includes complex problem-solving and inductively arrived at conceptual understanding.

The course is taught by faculty, professional staff and graduate teaching assistants each semester in multiple sections. The student staff (Resident Assistants) are taught by professional Student Affairs staff in designated sections, and the general student populations are taught by School of Education faculty and graduate teaching assistants in open sections. All sections share the same general curriculum, similar instructional designs and activities and parallel writing assignments. The designated sections for student staff differ mainly in their more explicit attention to real-world case studies drawn directly from residence hall student life. Our instructional designs are derived from social identity and experiential training models noted above (Weinstein, 1988; Weinstein & Bell, 1985; Jackson &

Hardiman, 1988), experiential learning theory (Kolb, 1984) and cognitive developmental theory-to-practice instructional models (Knefelkamp, 1974; Widick, 1975, 1978; Mentkowski, 1983). [A full analysis of the Social Diversity course is forthcoming.]

Prior to setting out on this exploratory research effort to identify more precisely the developmental characteristics of the social diversity course, the only descriptive and evaluative data on changes which occurred within the course -- beyond anecdotal or impressionistic evidence -- came from end-of-semester Likert-type student course evaluations, supplemented by open-ended student self-reports. These evaluations helped shape our research questions. At a future time, these evaluative data will be considered along with our developmental profiles, using a research principle of triangulation through several data sources, multiple perspectives and intersecting methods (Denzin, 1978; Patton, 1980).

SECTION II. <u>CONCEPTUAL FRAMEWORK: SOCIAL COGNITIVE DEVELOPMENT</u>.

Research and empirical evidence support the theory-based view that gains in social cognitive development can be facilitated by learning environments characterized by challenge (dissonance or contradiction, calling for accomodation) and support (assimilation, reinforced by peer interaction) if these learning environments are designed to match the cognitive developmental perspectives or positions of the students (Sanford, 1966, 1967; Widick, 1975, 1978; Knefelkamp, 1974, 1976). There is also evidence that the development of moral judgment, as a

specific cognitive developmental domain, can be facilitated by active practice in moral problem-solving which involves active discussions among peers and in which one position beyond the students is explicitly modelled (Kohlberg, 1969; Rest, 1986).

These applications of cognitive development theory provide our major conceptual base. We believe that the learning and skill represented by the objectives of the social diversity course go beyond the realm of attitudinal change to more fundamental social cognitive developmental issues. It will be important to know whether achievement of course goals entail developmental change in identifiable domains or whether the goals entail consolidation of pre-existing developmental profiles in new content areas. At the same time, the instructional design and procedures for the Social Diversity course are also derived from established social cognitive development principles. The course incorporates experience-based learning and attempts to balance challenges to student assumptions and established perspectives with support through peer affiliation and structured interactions (Perry, 1970, 1981; Kitchener, 1982; Kegan, 1981). The specific domains of social cognitive development which we think bear on these educational efforts in the field of Social Diversity include social-perspective taking (Selman, 1979, 1982), self-knowledge development (Weinstein & Alschuler, 1985) and moral judgment (Rest, 1979, 1986). Further, the newly emerging field of anti-oppression training theory (Weinstein, 1988) and social identity development theory (Jackson & Hardiman, 1988) are directly relevant to the conceptual framework for this work.

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Finally, our efforts to encourage the application of classroom learnings to real-world situations are shaped by two directions in recent developmental research. On the one hand, there is evidence that optimal skill development is limited to the immediate facilitating environment (Fischer, 1980, 1984). On the other hand, research suggests that transfer across environments or domains is itself a skill which can be facilitated by intentionally combining an information base with explicit teaching of metacognitive strategies (Alexander & Judy, 1988; Perkins & Salomon, 1989).

Conceptual Framework: Selection of Assessment Methods.

(1) The Perry Scheme and Measure of Epistemological Reflection.

The cognitive development transitions outlined in the Perry scheme (Perry, 1970, 1986) represent a map of development familiar to teachers of college undergraduates. These positions are somewhat arbitrarily defined, for Perry's emphasis is upon the markers or cues of developmental movement through qualitatively different views of knowledge from certainty through uncertainty to contextual thought. This scheme tracks students' gradual loss of the view that knowledge is certain and authority absolute (the Dualist, Positions 1 and 2), their discovery that some uncertainty seems undeniable, the truth not always known and authorities useful in suggesting procedures for problem solving (Multiplicity, Position 3), until they are able to accept

uncertainty (Multiplicity, Position 4) begin to think contextually (Relativism, Position 5) and establish commitments within a relativistic framework (Positions 6 to 9).

This account of cognitive development from a dichotomous to a contextual way of thinking and from an external to an internal locus of authority for intellectual judgments, provides a useful conceptual framework for the intellectual perspectives called for in Social Diversity education. The Perry scheme also provides a reference point for instructional design and assessment (Knefelkamp, 1974; Widick, 1978; Mentkowski, 1983). Learning environments can be tilted toward contradiction or disequilibrium to promote change, or toward support and moderated diversity when contradictions seem overwhelming. And finally, the Perry model has been shown to suggest the emergence and evolution of social perspective taking and empathy, meaning the capacity to coordinate multiple frames of reference and to differentiate "my experience" or perspective from "your experience" or perspective (1981). "The relativist . . . can understand the differences in experiences as reflecting the differences in perspectives. Unlike the dualist, the relativist <u>expects</u> that people will have somewhat different interpretations of the same event. He or she sees no contradiction in multiple views of a situation, each having 'validity' or 'truth'" (Benack, 1984).

The Perry scheme has gained currency among college teachers because of its descriptive power and its predictive potentiality. But the translation of theory into practice called

for valid assessment techniques to identify where students are on the developmental scheme and to assess appropriate developmental interventions. The absence of a practical as well as accurate and reliable production instrument prompted the development of the Measure of Epistemological Reflection (MER) (Baxter Magolda [Taylor], 1983, 1984; Baxter Magolda & Porterfield, 1985, 1988). The MER is a standardized, written production task instrument, with a series of questions that probe separately six domains intermingled in Perry research for separate written response and justification: educational decision-making, role of the learner, role of the instructor, role of peers, evaluation, and nature of knowledge. The justifications or reasoning structures evoked by the probes provide units of analysis or cues for coding, based on a scoring manual which describes position descriptions and reasoning structures for each of the six domains. Perry positions 1 through 5 are assigned in each of the six domains on the basis of justifications elicited by the written prompts. The positions assigned to the six domains are then averaged for a Total Protocol Rating. Two trained raters separately rate each domain of each protocol working from a rating manual (Baxter Magolda & Porterfield, 1988) constructed to clarify distinctions among reasoning structures and justifications within each position. The two raters then reconcile their differences (if any) and arrive at an agreed-upon TPR. Training for raters occurs through an independent study or seminar method utilizing the MER Manual and practice protocols with feedback prior to completing test protocols to establish agreement with expert

rater (Baxter Magolda, 1987a).

As noted earlier, Perry's scheme provides an excellent fit to the cognitive developmental dimensions of Social Diversity education: internal locus for judgments and decisions, complex problem solving, abstract and complex thought. The application of the model to social perspective taking, the coordination of multiple frames of reference and ability to differentiate among experiences and points of view (Benack, 1981) confirmed Perry as a model of choice, despite the restriction of its origin in data generated by research at an elite private college with primarily male subjects.

The MER's value as a research tool derives from its production format, its ease as a paper and pencil instrument with written questions and probes, the clarity and supports built into the Rater Training procedures, and the usefulness of the Rater's Manual with its comprehensive listing of reasoning structures or justifications for each Perry position in each domain. It is also useful as a diagnostic tool for syllabus revision or instructional design, not only from the cues of Perry positions but also from the substance of written responses concerning the role of learner, instructor, peers, and evaluation. [Refer to Endnote 1 for a more detailed account of the Perry model and other assessment alternatives.]

(2) <u>The Development of Moral Judgment and Defining Issues Test</u>.

The cognitive developmental theory of moral judgment locates the emergence of complex and inclusive moral reasoning in

a person's encounter with moral perspectives or moral dilemmas that challenge one's present cognitive structure. Lawrence Kohlberg developed both a theory of moral judgment and an intervention process whereby moral learning environments would involve exposure to the next higher level of moral reasoning, stimuli that pose conflicts or contradictions to the present reasoning structure, and an open format in which conflicting moral views could be compared (Kohlberg, 1969, 1976; Smith, 1978). Kohlberg also predicted that there would be regular, invariant, hierarchical forward movement from lower to higher stages of moral judgment. [Refer to Endnote 2 for a more detailed summary of Kohlberg's theory of moral judgment and the Defining Issues Test (DIT) model.]

That this expected outcome did not always emerge from the longitudinal data (Kohlberg & Kramer, 1969), which for some subjects showed a dip downward during their early college years, prompted the view that college students might exhibit transitional moral thinking derived from their discovery of the uncertainty or relativity of human values (Turiel, 1974). Gilligan draws upon the Perry scheme to help account for this transitional moral thinking among college students. She notes that the discovery of multiplicity by students (positions 3 & 4) could seem to negate the prior certainty of moral judgments, derived from a newly discredited dualism, but without providing the criteria or contexts which they discover at position 5 (Gilligan, 1981; Gilligan & Murphy, 1979). "This transformation signified a development from the formal mode of Kohlberg's

principled solutions to a contextual mode wherein the moral problem was seen, in Perry's terms, to be one of commitment in relativism" (Gilligan, 1981, p. 154).

Kohlberg's model of moral judgment development, like Perry's model of intellectual development, is built upon empirical data gathered through indepth longitudinal interviews, a method similarly followed in the work of Gilligan (1977) and Belenky et al (1986). The Kohlberg approach involves an interview protocol based on hypothetical moral dilemmas (the Heinz dilemma, for example) with probes to establish a subject's justification or reasoning structures. These reasoning structures are matched to an extensively detailed rating manual to establish judgment position along with other information. Interviewers and raters both require training and certification.

The Defining Issues Test (DIT), by contrast, is an objectively scored recognition or preference task instrument used extensively in moral judgment research. As a recognition or preference instrument it produces higher stage levels than an interview or sentence completion format (Rest, 1976; Mines, 1982). It consists of a moral dilemmas followed by a number of questions and probes to establish a subject's reasoning structures or justifications for the preferred response to the dilemma. Responses are marked directly on a form that is machine scorable. The scoring system provides a profile for each the subject's responses at each stage level, the P score (percentage of Principled or stage 5 and 6 responses), reliability and consistency checks and several other features (Rest, 1979; Mines,

1982).

The DIT over the years has been used in numerous studies to measure increases in moral judgment attributed to educational programs and other interventions across age groups and educational levels (Rest, 1986). Rest provides detailed analyses of these, from a cross-sectional and longitudinal perspective (Rest, 1979) and across culture, gender and religion (Rest, 1986). According to analyses and meta-analysis of a representative sample of 56 DIT studies and over 6000 subjects, the gender effect on the DIT is thought to be insignficant, as is the interaction between gender and age/education (Rest, 1986).

(3) Experiential Learning Theory and Learning Style Inventory.

Virtually all educational efforts to stimulate active or experience-based learning derive from the work of Piaget, who has shown in careful descriptive studies of infants, children and adolescents the interrelation of intellectual growth with active experimentation and direct, concrete experience (Piaget, 1932/1965, 1972, 1977). Kohlberg's theory of the development of moral judgment and Perry's theory of intellectual development as described above are obviously based upon Piaget's example. Piaget's influence can also be seen in the currency of experiential learning theory (Kolb, 1981, 1984), which has other roots in Kurt Lewin's (1951) application of action-research to planned-change interventions in small groups, large organizations and community systems. The Lewin-tradition can be traced in the T-groups and sensitivity training of the fifties and sixties,

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applied to human relations and the dynamics of group- and inter-group interventions and social change. The Social Diversity course owes its simulations, small group discussions, personal inventories, structured exercises, observation tools and skill-building activities to these two traditions of social learning -- Piaget and Lewin -- that converge in the experiential learning model of David Kolb (1981, 1984).

The core of Kolb's experiential learning model is a four stage cycle -- from Concrete Experience (CE) through Reflective Observation (RO) and Abstract Conceptualization (AC) to Active Experimentation (AE) -- which represents the transformation of experience into concepts and behavior, provides a basis for identifying different orientations to learning or learning types, and demystifies theory by rooting it firmly in the concrete and reflective components of learning (Kolb, 1981). [Refer to Endnote 3 for further discussion and illustrative figures.]

Kolb's learning model is applicable to the Social Diversity course in several ways: (1) as a description of the four major components or stages of social learning, (2) as a typology for individual orientations or preferences toward one component over the others and (3) as a frame of reference for intentional experiential learning design. Its capacity to represent the learning cycle as a recurrent phenomena at increasing levels of complexity, within which all four components are integrated and consolidated, gives it further value as a cognitive developmental intervention as well.

The 1985 revised Learning-Style Inventory (LSI 1985) is a

twelve-item rank-order forced choice questionnaire designed to provide information on a subject's learning style preference. Subjects rank-order their preferences among the four possible responses to each question, the four responses reflecting the four learning modes -- Concrete Experience (characterized by feeling), Reflective Observation (watching), Abstract Conceptualization (thinking), and Active Experimentation (doing). The LSI measures the respondent's relative orientation toward each of the four learning orientations -- CE, RO, AC, and AE -- as well as the two combination scores indicating preference of abstractness over concreteness (AC-CE) and action over reflection (AE-RO) (Smith & Kolb, 1985).

The LSI (1985) had value for this initial stage of exploratory research for at least two reasons. First, we draw directly on the Experiential Learning model to substantiate our application of all four learning modes in instructional design and use the four components of the model to explain to students our rationale for various instructional activities. This is important in an experientially taught course which otherwise seems to some students to contradict the norm they have experienced of large lectures emphasizing passive learning. The second reason is to test the possibility that the student staff in our primary population may differ from the general student sample in our parallel population on the basis of learning style orientation or preference. Although this possibility is derived mainly from impressionistic evidence, it achieves some support from the practical orientation expressed by some members of the

primary population whose orientation is toward direct application of skills. We also believe this aspect of research, along with the two measures of development, will provide valuable student profiles for our instructors at the same time that we are refining our research questions and characterizing the developmental processes in the domain of social diversity.

(4) Index of Homophobia.

It seemed important for us to utilize one assessment instrument at least that measured course content attitudinal change as distinct from the structural developmental features of perspective and meaning-making. The research principle of triangulation (Patton, 1980) provides the rationale to draw on a related but distinctive methodology to augment the range of data. Further, we cannot be sure until we examine our findings that the changes we are looking for are primarily developmental or attitudinal, or the degree to which various aspects of personal change and learning intersect. It will be clear that as described thus far, two of the four quantitative measures (the MER and DIT) focus on cognitive development, while the third (LSI) -- although a learning style instrument -- is nonetheless derived from a compatible developmental conceptual frameworks.

A word, first, about the domain to which the selected Index of Homophobia (Hudson & Ricketts, 1980) belongs. One goal of this exploratory long-term study is to understand whether (and if so, to what extent) the outcomes of Social Diversity education in the domains of self-awareness, social perspective-taking and

complex problem solving, are developmental in nature and have developmental preconditions. Since our curriculum takes up five general subject areas -- gender, race, religion, sexual orientation and physical or mental disability -- we are including one content attitudinal indicator. We chose an indicator of homophobia, because course evaluations and classroom observation suggested that our students had the least prior exposure to education about sexual orientation and had less prior awareness of the socially desireable responses that might cloud an attitudinal measure. Further, the classroom resistance we had experienced in dealing with sexual orientation as a topic for study further suggested that the pre- and post-test results on a reliable instrument might provide useful information, quite apart from its value in triangulating a developmental study. And finally, if we were to discover more significant change on an attititudinal measure than in our pair of developmental instruments, we would know to shift focus in later stages of our inquiry. We selected an instrument which focussed upon affect and feeling toward homosexuality rather than judgments about the morality of homosexuality or knowledge or responses concerning beliefs or legality, in order to assess the depth and range of attitudinal change.

The Index of Homophobia or IHP (Hudson & Ricketts, 1980) is a 25-item summated category partition scale with a score ranging from 0 to 100. Subjects rank their answers from 1 (= Strongly agree) to 5 (= Strongly disagree) in response to twenty-five statements which probe feelings of fear, disgust,

anger, discomfort and aversion which the authors characterize as indicating homophobia. 12 of the 25 statements are positively stated ("I would feel comfortable . . . " "I would enjoy"); 13 of the 25 statements are negatively stated ("I would feel uncomfortable . .) and must be reverse scored before the final score is tallied (e.g., 1=5, 2=4, 4=2, 5=1). Respondents expressing low discomfort or aversion gain low scores and conversely, respondents expressing considerable dread, disgust or fear show high scores. [Reliability and validity information appears in Endnote 4.]

SECTION III. METHODOLOGY AND DISCUSSION OF FINDINGS: STAGE ONE OF RESEARCH.

This paper reports on the research design, methodology and preliminary findings at the first stage of long-term exploratory research. The primary research objectives at this initial stage are (1) establishment of base-line developmental profiles for the two undergraduate populations involved in a fourteen week credited Social Diversity course, (2) preliminary comparison of the populations and (2) consideration of the relative value of findings from instruments drawn from several methodologies, using the research principle of triangulation.

Participants and Cohort Sample Size.

Stage one of the research focussed upon creation of base-line developmental profiles for two parallel undergraduate

populations engaged in a course on social diversity education. The primary populations consists of undergraduate Resident Assistants who are front-line residence hall student staff and who participate in designated sections of the course augmented by concurrent application of classroom learning to real-world situations. The parallel population is a sample of the general student population enrolled in open sections of the same course but not augmented by concurrent application to non-classroom settings.

The primary population sample size started at 176, but reduced to 149 by the end of the year through normal mid-year attrition for student staff. This group -- Cohort 1 -- included all Resident Assistants then on staff in their first year of service as student staff. They range in age from 18 - 23, in college class from sophomore to senior and represented nearly all college majors available, as described by an official list of departmental majors in the University.

44% of Cohort 1 participants who completed the study were male (n = 66), 56% were female (n = 83). The Cohort 1 pre-tests were administered in early September 1987, while student staff were together in pre-service training but six months before the beginning of their Social Diversity course. Post-tests were administered in mid-May 1988 during the last week of the course. Nine months elapsed between the two testing periods.

The parallel sample consisted of 70 students enrolled in three open sections of the Social Diversity course during the 1989 academic year: 1 section (n = 19) from Spring 1989 and 2

sections (n = 28 and 23) from Fall 1989. This sample is identified as Cohort 2 and consisted of 21 men and 44 women, all four college classes, an age range from 18 to 22 and a number of departmental majors. The open sections from which the parallel population was drawn were taught using the same syllabus and instructional design, the same writing assignments and the same readings as were used in the designated sections for the student staff. The only differences between the two samples derive from the direct application of learning and skills practiced by members of the primary population.

It was not possible to replicate in the study of Cohort 2 the nine-month interval that elapsed between the pre- and post-test administrations for Cohort 1. In the case of Cohort 2 we had only a ten-week interval between the pre- and post-tests. Further, a full academic year elapsed between the completion of Cohhort 1 post-tests and administration of Cohort 2 pre- and post tests. To strengthen future comparisons between the two populations represented by Cohorts 1 and 2, we added a small second sample from the primary population. This sample of 24 -- identified as Cohort 3 -- is drawn from the primary population of student staff as is Cohort 1, but was studied within the same time frame as Cohort 2 thereby providing a closer approximation for the primary population of the conditions under which we studied the parallel population. The small sample size for Cohort 3 is problematic but we note that further samples now in progress but not reported in this paper will provide better balanced sample sizes. [See discussion (6) below at p. 43.]

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Cohort 3 student staff were enrolled in designated sections of the course in Fall 1989. The Cohort 3 age spread was 18-24 with 29% (n = 7) male and 71% (n = 17) female. All four college classes were represented in this small sample and a range of college majors.

Pre-tests for Cohorts 2 and 3 were administered during the first three weeks of the semester. Posts-tests were administered during the last week of the semester, with a ten to twelve week interval between the two tests. All 70 students in Cohort 2 and all 24 students in Cohort 3 completed the pre- and post-tests, although not all students in these samples completed all aspects of every instrument. We indicate the missing data in the discussion which follows.

Procedures.

Participants in the three cohorts completed four instruments during both the pre- and post-tests with one exception: Cohort 1 was administered the Learning Style Inventory for one test only, whereas Cohorts 2 and 3 took the LSI in both pre- and post-tests to discover whether the LSI profiles remained constant. The instruments, described in Section II above, included six domains of the Measure of Epistemological Reflection (MER), six dilemmas of the Defining Issues Test (DIT), forced rankings of the 12-item Learning Style Inventory (LSI) and the 25 item five-ranked responses to the Index of Homophobia (IHP).

In this initial data base, we collected minimal demographic information so as not to be intrusive: age, gender, college class, college major, parental occupation. We plan to

gather further demographic data as we determine from these findings what demographic information we need and toward what purpose. For qualitative study at a later research stage, we pre-collected from members of the three cohorts written examples of complex problem solving. These examples of writing were produced by a structured Social Issues Inventories. [Refer to (6) below for a description of this instrument.] We also collected course evaluations from the semesters and course sections pertinent to the three cohorts. These evaluations consist of Likert-style response items as well as written responses to open-ended questions.

Rating of the LSI involved basic addition in each of the four columns indicating the four learning orientations: CE, RO, AC and AE. On the LSI we looked simply for the means for each of the four modes of experiential learning to establish profiles for individual students and means for each of the cohorts.

The IHP called for transposing the numbered responses for the negatively-worded items so that a response of 5 = 1, 4 = 2, 2 = 4 and 1 = 5, and adding the numbered responses. There is a formula to adjust for missing items.

The DIT was computer read at the Center for the Study of Ethical Development at the University of Minnesota and computer reread by us. The Center provided complete printout readings and a floppy disk, with profiles for all respondents across all stages. The information in respondent profiles included a P-score (percentage of principled responses, e.g. responses at stages 5 and 6), an M-score (Meaningless responses) as well as

other information we will make use of in a later stage of research. The Center established descriptive statistics based upon a purged sample: All respondents who failed the Centers' Meaningless and Consistency checks were deleted from their statistical analysis, which resulted in a considerably smaller sample size. In the discussion of findings we draw on both the purged samples from the Center and our recalculations of non-purged responses from the entire samples.

Rating the MERs required the establishment of at least two raters who had been trained, tested and certified. A research team of one faculty member, two doctoral students and two masters students met throughout the Fall 1987 semester to train for testing and certification. This research team was engaged in Partnership Research derived from the faculty-Student Affairs partnership which makes possible the participation of student staff in Social Diversity education. This research team worked with a pre-publication although revised version of the MER Rating Manual (Baxter Magolda & Porterfield, 1988). The team followed a procedure that combined the workbook method with weekly seminar meetings, practiced on MER protocols for which expert ratings and explanations had been provided, and supplemented our work with individual study as described in Baxter Magolda, 1987a. Raters were then tested on MER protocols they had not seen before, and their responses compared by Baxter Magolda with expert ratings for the test protocols. All five members of the Partnership Research group were certified with inter-rater reliability ranges from .81 to .94.

Cohort 1 MER rating occurred after the post-tests had been administered, following a process by which pre- and post-tests were intermingled to reduce possible rater prejudgments but differentiated pre- and post by a color-code unknown to the raters. The five raters formed four rating teams of two. This overly elaborate process was not followed for Cohorts 2 and 3, which were rated by two raters only, with interrater reliability of .91 and .94 at prior certification.

Normally raters work independently and reconcile differences in the Total Protocol Rating only. For the purposes of this study, however, raters reconciled differences for every one of the six domains. We did so to arrive at base-line data which included frequencies and percentages for two of the six MER domains which were of special interest to us -- Domain 4, Role of Peers and Domain 6, Nature of Knowledge and Truth . These data will be included in the discussion section that follows.

PRESENTATION AND DISCUSSION OF FINDINGS: STAGE ONE.

(1) Demographic Data:

The age range for participants in the three Cohorts ranged from 18 to 24, with the majority between 19 and 20 (74.5%) for Cohort 1, age 19 (33%) for Cohort 2 and age 20 (50%) for Cohort 3 at the time of the post-test. Table 1.1 shows frequency distribution and percentages for age across the three cohorts.

Table 1.1: Age across Cohorts

Cohort	Age															
	18		19		20		21		22		23		24		Missing	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
1	7	5	52	35	59	40	22	15	7	5	2	1	0	0	0	0
2	16	23	23	33	14	20	8	11	2	3	0	0	0	0	7	10
3	1	4	2	8	12	50	7	29	1	4	0	0	1	4	0	0

Cohort 1: N=149 Cohort 2: N=70 Cohort 3: N=24

As noted earlier, the gender balance within the 149 Cohort 1 sample was 44% was male, 56% female. In Cohort 2 (n = 70), 30% were male and 63 % female, with 7% missing data. In Cohort 3 (n = 24), 29% were male, 71% female. Table 1.2 shows frequency distribution for gender across cohorts.

Table 1.2: Gender across Cohorts

Gender	Cohort 1 (N=149)		Cohort 2 (N=70)		Cohort 3 (N=24)	
	#	%	#	%	#	%
M	66	44.3	21	30.0	7	29.2
F	83	55.7	44	62.9	17	70.8
Missing	0	0.0	5	7.1	0	0.0

All three samples presented a range of college majors with no special clustering of academic interests. This is not surprising in the case of Cohort 2, made up of students taking Social Diversity primarily to fulfill a University General Education requirement, but it did surprise us in the case of student staff in Cohorts 1 and 3. In Cohort 1 (n = 149), the college majors generated 23 different major departments, with no one major exceeding the high of 14% (n = 21) for Management majors. Only two other majors had more than 10% of the Cohort 1 sample of 149: Science majors from College of Arts and Sciences were 11% (n = 17) and Communication Studies majors 10% (n = 15).

The next two were 8% for both Engineering and Psychology (n = 12).

Cohort 2, a smaller sample (n = 70), had only slightly less variety, 17 academic majors with 9 (13%) missing data. The three majors over 10% for this group were Engineering 20% (n = 14), English 10% (n = 7) and History 19% (n = 13).

Cohort 3, a smaller sample of student staff (n = 24), represented 11 majors. In this sample only three majors showed at the 12.5% (n = 3): Political Science, Psychology and History. Missing cases were 12.5% (n = 3).

47% of Cohort 1 were juniors (n = 70), not surprising in the light of eligibility restrictions for student staff. Similarly, 62.5% (n = 15) of Cohort 3 -- the smaller sample of student staff -- were also juniors. In Cohort 2, the sample was fairly evenly distributed among first-year students, sophomores and juniors. Table 1.3 shows frequencies and percentages for distibution of college class across the three cohorts.

Table 1.3: College Class across Cohorts

Class	Cohort 1 (N=149)		Cohort 2 (N=70)		Cohort 3 (N=24)	
	#	%	#	%	#	%
Fr	0	0.0	17	24.3	1	4.2
Soph	47	31.5	24	34.3	1	4.2
Jr	70	47.0	16	22.9	15	62.5
Sr	32	21.5	8	11.4	7	29.2
Missing	0	0.0	5	7.1	0	0.0

(2) The Measure of Epistemological Reflection (MER).

We used the MER to establish developmental profiles for each sample and to assess the effects of time, which we had been unable to hold equal across cohorts. We also looked for differences between the two student populations. Finally we looked for developmental profiles which might support the current instructional design, keyed primarily to Position 3 (Multiplicity) but with moderate attention to needs of students in Position 2 (Dualism) and Position 4 (Relativism).

Our on-going observation of student staff -- the population from which Cohorts 1 and 3 were drawn -- had led us to believe that Domain 4 (Role of Peers) and Domain 6 (Nature of Knowledge and Truth) should bear special scrutiny. Student staff characteristically seemed especially interested in the views of their peers and they seemed unusually aware that their peers had subjective points of view that differed from their own, a developmental perspective which has been shown to be congruent with Relativistic thinking (Benack, 1984). We hypothesized that Domains 4 and 6 might be a leading edge for development in a course devoted to Social Diversity and social perspective-taking for the general student population in the open sections (represented in our sample by Cohort 2) as well as for the student staff in designated sections.

The majority of participants in each of the three cohorts responded according to Position 3 (Multiplicity) across most domains. A notable exception occurred in Domain 6 (Nature of Knowledge and Truth), where the three cohorts had a strong

Position 4 (Relativism) showing. Statistical analysis showed no significance at .05 for the Domain 4 and Domain 6 frequencies.

Table 2.1 shows MER means and standard deviations across the three cohorts. Table 2.2 (next page) shows the frequencies and percentages across cohorts for MER Domain 4 (Role of Peers), Domain 6 (Nature of Knowledge and Truth) and Total Protocol ratings.

Table 2.1: MER: Descriptive Statistics for Pre and Post Tests across Cohorts

Cohort	Test	MER 4		MER 6		TPR	
		Mean	Std.Dev.	Mean	Std.Dev.	Mean	Std.Dev.
1	Pre	3.13	0.69	3.47	0.66	3.31	0.56
	Post	3.15	0.59	3.53	0.67	3.29	0.60
2	Pre	3.05	0.66	3.16	0.64	2.91	0.34
	Post	3.24	0.60	3.41	0.64	3.16	0.38
3	Pre	3.21	0.59	3.52	0.59	3.11	0.34
	Post	3.28	0.58	3.71	0.47	3.33	0.32

Cohort 1 Pre=test: N=112; Cohort 1 Post-test: N=108; Cohort 2 Pre-test: N=67; Cohort 2 Post-test: N=62; Cohort 3 Pre-test: N=24; Cohort 3 Post-test: N=17.

Table 2.2: MER: Frequencies and Percentages across Cohorts

Cohort	Position	MER 4				MER 6				TPR**			
		Pre-Test		Post-Test		Pre-Test		Post-Test		Pre-Test		Post-Test	
		#	%	#	%	#	%	#	%	#	%	#	%
1	2	19	12.8	11	7.4	10	6.7	7	4.7	2	1.3	5	3.4
	3	60	40.3	67	45.0	39	26.2	38	25.5	76	51.0	67	45.0
	4	31	20.8	27	18.1	62	41.6	56	37.6	31	20.8	35	23.5
	5	1	0.7	0	0.0	0	0.0	3	2.0	2	1.3	1	0.7
	Missing	38	25.5	44	29.5	38	25.5	45	30.2	38	25.5	41	27.5
2	2	13	18.6	6	8.6	9	12.9	5	7.1	6	8.6	1	1.4
	3	38	54.3	34	48.6	36	51.4	27	38.6	58	82.9	47	67.1
	4	16	22.9	19	27.1	22	31.4	29	41.4	3	4.3	14	20.0
	Missing	3	4.3	11	15.7	3	4.3	9	12.9	3	4.3	8	11.4
3	2	2	8.3	1	4.2	0	0.0	0	0.0	0	0.0	0	0.0
	3	15	62.5	11	45.8	12	50.0	5	20.8	21	87.5	9	37.5
	4	7	29.2	6	25.0	10	41.7	12	50.0	3	12.5	8	33.3
	5	0	0.0	0	0.0	1	4.2	0	0.0	0	0.0	0	0.0
	Missing	0	0.0	6	25.0	1	4.2	7	29.2	0	0.0	7	29.2

**Note: TPR position is computed in the following manner: 1.50 to 2.49 = 2; 2.50 to 3.49 = 3; 3.50 to 4.49 = 4; 4.50 to 5.49 = 5.

Cohort 1: N=149 Cohort 2: N=70 Cohort 3: N=24

We must comment on missing data in the MERs, primarily in the samples of student staff (Cohorts 1 and 3), which range for Cohort 1 (n = 149) from 25% (n = 38) among pre-tests to 30% (n = 45) for post-tests; the smaller sample of Cohort 3 (n = 24) reaches 29% (n = 7) for post-tests. We found student staff extremely hard-pressed at the end of the semester, more so than the general student population, and they cut corners even when otherwise completing their responses to the post-tests. Some Cohort 1 MER post-test protocols were terse to the point of unratability, a problem we later worked to correct with Cohorts 2 and 3, where we stressed the importance of complete responses. As a result of 28% missing data, we question the reliability of Cohort 1 TPRs. The same is true for Cohort 3. The replication study currently in process should correct this problem and provide reliable profiles.

All three samples show modest increases in mean scores for Domain 4 (Role of Peers) and Domain 6 (Nature of Knowledge and Truth). (See Table 2.1 above.) It is notable that these Domain-specific gains hold true even for Cohort 1, where otherwise the TPR mean shows a slight overall decrease of .02 fom 3.31 to 3.29. Again, it will be important to see whether these domain-specific increases repeat in the replication study. It will also be interesting to consider whether the student staff cohort, studied over a nine-month period, was showing consolidation at Position 3 (Multiplicity) in a challenging education-to-practice program in a new domain of learning, rather than movement to Position 4 (Relativism) except in Domain 6

(Nature of Knowledge and Truth).

Cohort 3 shows a slight gain from a TPR mean score on the pre-test of 3.11 (SD = .34) to a TPR mean score on the post-test of 3.33 (SD = .32) with 7 missing cases. Cohort 2 showed a larger gain, although from a lower pre-test TPR mean of 2.91 (SD = .34) with 3 missing cases, to a post-test TPR of 3.16 (SD = .38) with 8 missing cases. In all three cohorts we may be seeing either movement into Position 3 (Multiplicity) or consolidation within Position 3.

(3) <u>The Defining Issues Test (DIT)</u>.

At this initial stage of research, in which the primary emphasis is upon creation of base-line developmental profiles for both student populations, we are focussing primarily on the P (= Principled) score for the DIT. P-scores represent the percentage of answers to the moral dilemmas for a given respondent at the stage 5 and 6 levels. As noted above, we are working here with two sets of descriptive statistics for DIT findings. The first set derives from a purged sample prepared for us by the Center for the Study of Ethical Development (University of Minnesota) which omits any DIT protocols failing the Meaningless, Consistency or multiple error checks. The smaller size of this DIT sample, after purging, creates problems of sample size (with concomitant assets of sample reliability) equivalent to our removal of MER protocols with missing or unratable responses (reported as missing cases in the MER sample). We recalculated

DIT data in our unpurged samples. These data report a larger sample size but less reliable findings. Missing cases in this second instance result from protocols without answers or protocols not turned in.

Table 3.1 (which appears on the following set of pages) shows the purged sample across cohorts, and within Cohort 2 across subgroups from the 3 open sections of the Social Diversity course. These are the data as sent to us from the Center for the study of Ethical Development at the University of Minnesota. Their descriptive data enables us to examine movement across individual stage positions rather than focus upon the percentage of principled answers only. They also provide norms for comparison (Rest, 1979). Table 3.2 (next pages) presents the means and standard deviations for the three cohorts from the purged sample and from our larger inclusive sample.

It is important to keep in mind the purged sample sizes if one is tempted to interpret the stage-to-stage movement shown in Table 3.1 or changes from pre-test to post-test. Although the Cohort 1 data, for example, show a slight decrease in Stage 2, 3 and 4 scores concomitant with a slight increase in Stage 5a, 5b and 6 scores, the sample loss is 45 within the purged sample, drawing sample size down from 135 pre-test subjects to 90 post-test subjects. The pre-test purged sample (n = 135) has 13 fewer than our inclusive sample (n = 148 with 1 missing case) and at the post-test the purged sample (n = 90) has 55 fewer than our inclusive sample (n = 145 with 5 missing cases).

Table 3.1: DIT: Descriptive Statistics for Purged Samples Across Cohorts and Subgroups

Cohort	SubGrp	Test	Mean/SD	Stage						A	M	P
				2	3	4	5a	5b	6			
1	none	Pre	M	3.30	8.55	16.99	18.10	4.75	3.62	2.34	2.38	44.11
			D	2.99	5.23	6.64	6.73	13.77	2.84	2.59	2.14	14.13
		Post	M	2.75	7.81	15.16	19.66	5.05	4.30	2.49	2.78	48.35
			D	2.81	4.81	6.79	6.58	15.02	3.20	2.60	2.41	14.39
2	1	Pre	M	2.79	7.06	17.02	18.74	5.11	4.49	2.79	2.00	47.24
			D	2.09	7.06	8.98	7.10	3.93	2.28	2.16	2.45	14.38
		Post	M	2.67	7.89	15.63	19.71	4.83	4.28	2.67	2.34	48.03
			D	2.64	5.72	6.53	6.15	3.77	3.68	2.00	2.41	15.25
	2	Pre	M	3.33	11.49	13.45	18.47	4.57	2.16	4.06	2.48	42.00
			D	2.95	4.59	6.39	5.22	2.55	2.04	3.47	2.21	9.59
		Post	M	2.79	9.05	13.94	19.09	4.89	4.04	3.30	2.89	46.72
			D	3.06	4.06	5.71	6.03	2.94	2.62	3.06	2.33	12.31
	3	Pre	M	2.00	18.41	20.24	7.71	2.65	2.12	5.29	1.59	20.79
			D	2.40	4.15	3.87	3.67	2.67	2.29	2.57	1.37	8.26
		Post	M	4.01	7.67	16.47	17.71	4.68	3.18	2.50	3.78	42.61
			D	3.29	3.87	5.52	8.14	2.25	3.32	2.56	2.29	15.48

Table 3.1: DIT: Descriptive Statistics for Purged Samples, continued from previous page

Cohort	SubGrp.	Test	Mean/SD	Stage 2	3	4	5a	5o	6	A	M	P
3	none	Pre	M	3.57	16.62	18.76	9.48	2.71	2.59	3.42	2.85	24.65
			D	3.45	4.94	4.49	4.22	1.99	2.18	2.45	2.00	7.30
		Post	M	3.71	8.73	17.72	15.29	3.60	3.93	3.26	3.76	38.04
			D	3.20	4.37	5.61	6.87	3.47	2.56	3.01	2.49	13.08
Norm			M	3.05	8.60	17.01	15.81	5.20	4.89	2.54	2.89	43.19
			D	2.81	5.14	8.07	6.31	3.40	3.34	2.61	2.24	14.32

Cohort 1: Pre-Test - N=135; Post-Test - N=90
Cohort 2, Subgroup 1: Pre-Test - N=16; Post-Test - N=15
Cohort 2, Subgroup 2: Pre-Test - N=22; Post-Test - N=18
Cohort 2, Subgroup 3: Pre-Test - N=17; Post-Test - N=18
Cohort 3: Pre-Test - N=17; Post-Test - N=12
College Norm Sample: N=270

These descriptive statistics were prepared from the purged DIT Samples by the Center for the Study of Ethical Development at the University of Minnesota.

For an explanation of the college norm sample, see Rest, 1979.

Table 3.2: DIT P-Scores: Descriptive Statistics for Purged and Total Samples Across Cohorts

Sample	Cohort 1				Cohort 2				Cohort 3			
	Pre-Test		Post-Test		Pre-Test		Post-Test		Pre-Test		Post-Test	
	Mean	Std.D	Mean	Std.D	Mean	Std.D	Mean	Std.D	Mean	Std.D	Mean	Std.D
P	44.11	14.12	48.33	14.39	38.10	15.21	45.71	14.36	24.70	7.42	36.14	12.28
T	41.33	15.33	33.36	33.80	38.71	15.39	46.22	13.74	27.06	8.33	39.13	12.34

Purged: Cohort 1: Pre - N=135; Post - N=90; Cohort 2: Pre - N=61; Post - N=64
Total: Cohort 1: Pre - N=148; Post - N=145; Cohort 2: Pre - N=67; Post - N=60

Purged: Cohort 3: Pre - N=15; Post - N=10
Total: Cohort 3: Pre - N=22; Post - N=14

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As Table 3.2 indicates, the Cohort 1 purged sample (n = 135) had considerably higher P-score means than the complete sample P-score means. The purged sample had P-score means of 44.11 (SD = 14.13) and 48.35 (SD = 2.26) whereas the total inclusive sample P-score means of 41.83 (SD = 15.38) and 33.06 (SD = 23.5). We are puzzled by this score loss in the total inclusive sample, which clearly does not accord with gain predictions from moral judgment development theory. Gain loss did not occur in the other samples and, more important, did not appear in the purged DIT Cohort 1 sample which showed a P-score gain. To add to the puzzle, the purged post-test sample from Cohort 1 -- when compared by the statistical service at the Center for the study of Ethical Development to the norms they had established for College Age respondents to the DIT (Rest, 1979) -- indicated statistical significance ($p < .05$) in relation to their college norms.

We did a simple Pearson correlation between Cohort 1 pre- and post-tests for total samples and we find a significant correlation in the case of stages 4, 5a and 6, as well as the Meaningless check and the P-scores. We are not ready to interpret these findings and will reexamine them in the light of findings from the replication study currently in progress. [See discussion in (6) below.]

Table 3.2 shows that Cohorts 2 and 3 gained as predicted from developmental theory (Rest, 1979, 1986) by as much as 10% for the total sample of Cohort 2 and 12% for the purged and total samples of Cohort 3 (10 missing post-test cases).

We will return to these data for an inter-stage and intra-cohort analysis of both purged and total samples within each of the three cohorts at a later stage of research. At a later time we will study gain scores in our replication study and test again for significance.

(4) Learning Style Inventory (LSI).

In the initial research plan, we had intended to administer the LSI once only and did so with Cohort 1. Cohorts 2 and 3 were given the LSI at both pre- and post-test periods. For cross-cohort comparison in this initial report, therefore, we compare the Cohort 1 single LSI test findings with the Cohorts 2 and 3 pre-tests results. The pre- and post-test results for Cohorts 2 and 3 revealed interesting differences and we will present them separately.

Table 4.1 shows the frequency and percentage means for each of the four learning style orientations (CE, RO, AC and AE) across the three cohorts. One finding, which contradicted our

Table 4.1: LSI: Frequencies and Percentages Across Cohorts

Cohort	CE		RO		AC		AE		Missing	
	#	%	#	%	#	%	#	%	#	%
1	25	16.8	20	13.4	39	26.2	21	14.1	44	29.5
2	6	8.6	14	20.0	14	20.0	21	30.0	15	21.4
3	5	20.8	4	16.7	6	25.0	8	33.3	1	4.2

Cohort 1: N=149 Cohort 2: N=70 Cohort 3: N=24

initial expectation that the profile for Cohort 1, which was made up of student staff who expressed strong interest in the "practical" applications of the Social Diversity skills, showed the largest clustering -- 26.2% (n = 39) -- in Abstract Conceptualization with a balanced profile among the other three orientations (44 missing cases). On the other hand, the small Cohort 3 sample supported our expectation, with 33.3% (n = 8) preferring Active Experimentation at the pre-test, but the second highest mean of 25% (n = 6) preferring Abstract Conceptualization. 30% (n = 21) of Cohort 2 favored AE, followed by a tie at 20% (n = 14) favoring AC and 20% favoring RO (15 missing cases).

These data provide interesting discomfirmation of an assumption that students who self-select into the role of student staff (represented in Cohorts 1 and 3) select any one learning style orientation or preference.

It is of further interest that the results from pre- and post test administration of the LSI suggested shifts in orientation within the Cohort 2 and 3 samples. These intra-cohort changes in overall profile are shown in Table 4.2 (see next page). Statistical analysis suggested that the intra-cohort changes from pre- to post-tests for Cohorts 2 and 3 reached significance ($p < .05$). We will study the results of the replication study in progess to see whether the intra-cohort changes in learning style orientation over a 10 week interval recurs.

We do not have comparable data or norms regarding changes

in learning style orientation during an equally short period

Table 4.2: LSI: Frequencies and Percentages for Pre-Test and Post-Test: Cohorts 2 and 3

Cohort	Test	CE		RO		AC		AE		Missing	
		#	%	#	%	#	%	#	%	#	%
2	Pre	6	8.6	14	20.0	14	20.0	21	30.0	15	21.4
	Post	14	20.0	12	17.1	16	22.9	16	22.9	12	17.1
3	Pre	5	20.8	4	16.7	6	25.0	8	33.3	1	4.2
	Post	2	8.3	4	16.7	4	16.7	4	16.7	10	41.7

Cohort 2: N=70 Cohort 3: N=24

between tests. We will want to know whether changes in orientation by individual students is related to our even-handed emphasis upon each of the four dimensions of the Experiential Learning Cycle as reference points for insstructional activities and assignments. The number of missing cases makes us reluctant to overtax these preliminary data and we will reexamine this aspect of the study with the replication study and comparison study.

(5) Index of Homophobia (IHP).

It will be remembered that the IHP 1 - 100 scoring system

is one in which the lower score indicates greater comfort toward gays and lesbians and the higher score indicates greater dread or disgust, indicative therefore of greater homophobia. Table 5.1 shows the decreased scores in each cohort. It was not surprising that Cohort 2 general student sample showed higher pre-scores for homophobia -- although still below 50% -- than the two samples of student staff. Statistical analysis found significant change for Cohorts 1 and 2 in the two test periods ($p < .05$). This change affirms student assertions in the open-ended course evaluations that their most memorable learning dealt with homophobia, in part (they asserted) because they had the least awareness or knowledge in that area.

Table 5.1: MHP: Descriptive Statistics for Pre-Test and Post-Test Across Cohorts

	Cohort 1 (N=149)		Cohort 2 (N=70)		Cohort 3 (N=24)	
	Pre	Post	Pre	Post	Pre	Post
Mean	41.7	36.0	48.4	39.3	29.4	27.6
Std.Dev.	16.2	16.6	18.8	20.2	16.8	17.1
# cases	148	107	69	62	23	18
Missing	1	42	1	8	1	6

(6) Implications for Further Research: Next Steps.

This initial report represents the first stage of a larger exploratory study, currently in progress. The base-line developmental profiles presented here are limited by some of the methodological difficulties that emerged in the initial stages of administering the instruments. Briefly, these difficulties included differing sample size across post-test cohorts, different time frames for Cohort 1 and Cohorts 2 and 3, and incomplete post-test protocols marring MER and purging DIT results. These difficulties will be corrected in the replication study currently in progress, which include these changes: (1) Evenly matched (n = 150) large sample size for the primary and parallel populations; (2) Equivalent time frames for the primary and parallel populations (e.g., both tested in the same Spring 1990 semester); (3) Efforts to elicit thorough completed protocol responses; (4) Additional demographic data, such as ethnic and racial background and GPA; (5) Statistical analysis for significance of overall gains (wherever they occur) and to test for the effects of time, age, college class and gender.

Confirmation or disconfirmation of the preliminary findings reported in this paper can be provided at the next stage. In particular, confirmation or disconfirmation will be looked for in the following areas:

(1) Demographic Data: Do departmental majors of college students bear on response to Social Diversity education? On learning style (Kolb, 1981)? What are the comparable effects of

age in relation to college class on MER or DIT scores? Is there a gender effect? Is there a race or ethnicity effect? And does GPA correlate with developmental level or movement?

(2) MER: We would want to confirm the overall Position 3 (Multiplicity) profile for these students and confirm the preliminary evidence that Domain 4 (Role of Peers) and Domain 6 (Nature of Knowledge and Truth) develop in advance of other domains. In particular we will look for confirmation of gain scores in those two domains. We will read for gender effects in style of response, insofar as those are notable in the language produced by the MER probes (Baxter Magolda, 1989a & b). We will also look to TPRs for confirmation of developmental consolidation within Multiplicity for the new domain of social and cultural diversity, rather than developmental movement, given the time effect and limitations of a single 14-week semester.

(3) DIT: We need to provide an inter-stage intra-cohort analysis if we are to interpret the nature of individual and cohort profiles, a procedure recommended by Rest (1979). Such an analysis is called for in the current samples as well as the replication study.

(4) LSI: We will want to confirm the distribution of learning styles within separate sections of the Social Diversity course as well as between or across cohorts. More important we will monitor changes in learning style orientation and preference

between pre- and post-tests.

(5) IHP: Gain scores on the content attitudinal measure appeared our most clear-cut. We will confirm these findings and evaluate the use of other content attitudinal measures, in other content areas of the Social Diversity course: race, gender, anti-Semitism for example. It is possible that short term changes in attitude and feeling toward specific course content are more visible than structural qualitative changes in developmental domains, at least as those changes are currently measured by existing assessment instruments and within a fourteen week time frame.

Next, a step especially critical toward our long-term research goals involves the establishment of base-line developmental profiles for a comparison sample of undergraduate students matched for college class, age and gender but not involved in the Social Diversity course or other formal classroom or training aspects of social diversity education. Such a comparison profile will help us disentangle the effects of formal social diversity education from the common experience among all students of the effects of time, exposure to college, and exposure to social and cultural differences on campus or in home communities.

Finally, we will examine the feasibility of identifying qualitative developmental descriptors for students selected from

the initial as well as our later samples. We will do this by examining Social Issues Inventories written by and collected from members of Cohorts 2 and 3, for developmental cues in the domains of self-knowledge (Weinstein & Alschuler, 1985), social identity development (Jackson & Hardiman, 1988) and social perspective taking (Selman, 1976, 1980; Benack, 1984). This will be a pilot effort to assess the feasibility of more systemmatic qualitative research in identified cognitive domains. Such developmental cues generated from student writing, once established, would provide a valuable qualitative elaboration for the information provided by our base-line developmental profiles.

We will follow those students from Cohorts 1 and 2 who remain available and interested, by re-administration of all instruments, supplemented with taped interviews. A pilot follow-up will explore the long-term developmental effects and generate information from student self-reports concerning subsequent application to real-world situations of the course knowledge and skills. In particular we intend to characterize, from a student point of view, the factors that facilitate or inhibit continuing application of social diversity awareness, knowledge and skill to real world settings. These factors clearly merit further study.

ENDNOTES AND ILLUSTRATIVE DIAGRAMS.

(1) The Perry Scheme, Assessment Measures, and the Measure of Epistemological Reflection.

The process by which college students achieve the overall intellectual goals of higher education -- internal self-regulation of thought and behavior, critical thinking, complex problem-solving, abstract and complex thought -- has been convincingly described by William Perry (1970, 1981) as a Pilgrim's Progress, complete with Sloughs of Despond, along a map of qualitatively different, sequential perspectives on meaning. These positions describe intellectual development from dichtomous or Dualistic intellectual constructs (the first two Perry positions) to a complex, contextual or Relativistic understanding of knowledge and reality at position 5.

Uncertainty, first hinted at in position 2, is understood at position 3 as a temporary phenomenon under the belief that all will be known in the future. Position 4 students believe most if not all knowledge is uncertain and lack procedures or criteria to evaluate one opinion in relation to another, although the transition involves procedures and methods to think about knowledge. Within the stages described as Multiplicity (positions 3 and 4), diversity of opinion is accomodated as a special case within a dualistic epistemology, until the achievement of a Relativistic perspective at Position 5.

The transition to Relativism is characterized by a turning away from diversity of opinions as a special case within Dualism ("not known yet") or separate legitimacy in limited domains ("humanities" or "arts"), toward the existence of diverse perspectives or contexts as frameworks from which judgments can be derived. By position 5 knowledge is understood to be contextual, with perspectives adjusted in the critical light of relevant evidence. This scheme of development has been found to characterize the evolution of students' thinking in a variety of educational settings and across course content domains (Perry, 1981; Knefelkamp, 1974; Kurfiss, 1975, 1977; Stephenson & Hunt, 1977; Mentkowski, 1983).

The Perry scheme of development presents a nine position evolutionary movement, of which only the first five stages or positions are understood to describe distinct cognitive structures. The the remaining four describe modes of ethical commitment in relativism. The two diagrams reproduced here from Perry's 1981 essay "Cognitive and Ethical Growth: The Making of Meaning" provide visual representations of the scheme.

The adaptability of the Perry scheme to the transitions and transformation of intellectual perspective experienced by college students has prompted a number of assessment tools. Although some researchers have employed the original interview methodology to replicate or extend Perry's work for new

Figure 1. Scheme of Cognitive and Ethical Development

Position 1	Authorities know, and if we work hard, read every word, and learn Right Answers, all will be well.
Transition	But what about those Others I hear about? And different opinions? And Uncertainties? Some of our own Authorities disagree with each other or don't seem to know, and some give us problems instead of Answers.
Position 2	True Authorities must be Right, the others are frauds. We remain Right. Others must be different and Wrong. Good Authorities give us problems so we can learn to find the Right Answer by our own independent thought.
Transition	But even Good Authorities admit they don't know all the answers *yet*!
Position 3	Then some uncertainties and different opinions are real and legitimate *temporarily*, even for Authorities. They're working on them to get to the Truth.
Transition	But there are *so many* things they don't know the Answers to! And they won't for a long time.
Position 4a	Where Authorities don't know the Right Answers, everyone has a right to his own opinion; no one is wrong!
Transition *(and/or)*	But some of my friends ask me to support my opinions with facts and reasons.
Transition	Then what right have They to grade us? About what?
Position 4b	In certain courses Authorities are not asking for the Right Answer; They want us to *think* about things in a certain way, *supporting* opinion with data. That's what they grade us on.
Transition	But this "way" seems to *work* in most courses, and even outside them.
Position 5	Then *all* thinking must be like this, even for Them. Everything is relative but not equally valid. You have to understand how each context works. Theories are not Truth but metaphors to interpret data with. You have to think about your thinking.
Transition	But if everything is relative, am I relative too? How can I know I'm making the Right Choice?
Position 6	I see I'm going to have to make my own decisions in an uncertain world with no one to tell me I'm Right.
Transition	I'm lost if I don't. When I decide on my career (or marriage or values) everything will straighten out.
Position 7	Well, I've made my first Commitment!
Transition	Why didn't that settle everything?
Position 8	I've made several commitments. I've got to balance them—how many, how deep? How certain, how tentative?
Transition	Things are getting contradictory. I can't make logical sense out of life's dilemmas.
Position 9	This is how life will be. I must be wholehearted while tentative, fight for my values yet respect others, believe my deepest values right yet be ready to learn. I see that I shall be retracing this whole journey over and over—but, I hope, more wisely.

From William G. Perry, J. "Cognitive and Ethical Growth: The Making of Meaning," in Arthur W. Chickering (Ed.), The Modern American College (Jossey Bass, 1981), p.79.

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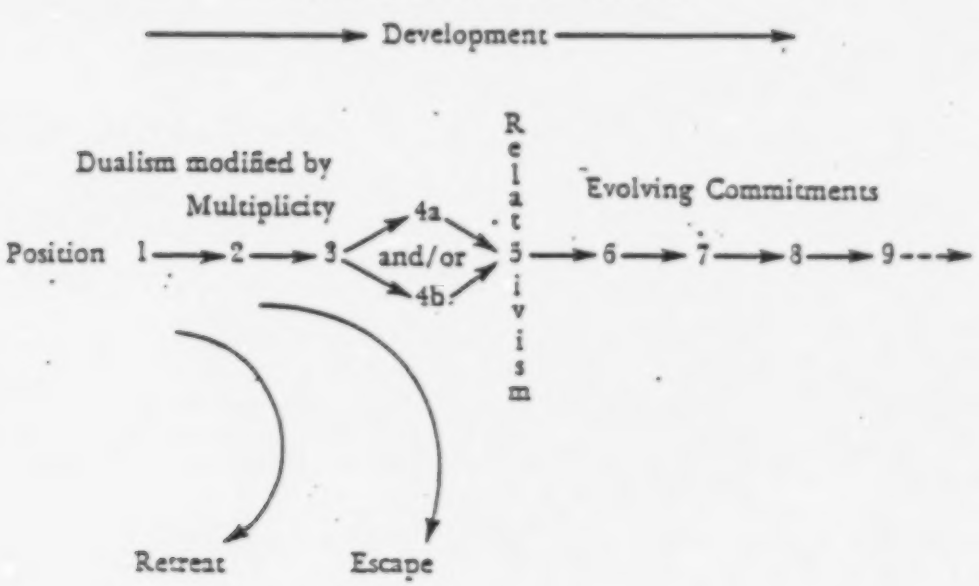
Figure 2. A Map of Development



Dualism. Division of meaning into two realms—Good versus Bad, Right versus Wrong, We versus They, All that is not Success is Failure, and the like. Right Answers exist *somewhere* for every problem, and authorities know them. Right Answers are to be memorized by hard work. Knowledge is quantitative. Agency is experienced as "out there" in Authority, test scores, the Right job.

Multiplicity. Diversity of opinion and values is recognized as legitimate in areas where right answers are not yet known. Opinions remain atomistic without pattern or system. No judgments can be made among them so "everyone has a right to his own opinion; none can be called wrong."

Relativism. Diversity of opinion, values, and judgment derived from coherent sources, evidence, logics, systems, and patterns allowing for analysis and comparison. Some opinions may be found worthless, while there will remain matters about which reasonable people will reasonably disagree. Knowledge is qualitative, dependent on contexts.

Commitment (uppercase *C*). An affirmation, choice, or decision (career, values, politics, personal relationship) made in the awareness of Relativism (distinct from lowercase *c* of commitments never questioned). Agency is experienced as within the individual.

Temporizing. Postponement of movement for a year or more.

Escape. Alienation, abandonment of responsibility. Exploitation of Multiplicity and Relativism for avoidance of Commitment.

Retreat. Avoidance of complexity and ambivalence by regression to Dualism colored by hatred of otherness.

From William G. Perry, Jr. "Cognitive and Ethical Growth: The Making of Meaning." In Arthur W. Chickering (Ed.), The Modern American College (Jossey Bass, 1981), pp. 79-80

populations (Clinchy, 1981; Belenky et al, 1986), the first practical assessment tool was the paper and pencil instrument called the KneWi (Knefelkamp, 1974; Widick, 1975) later adapted to the Measure of Intellectual Development (MID), a semi-structured written production instrument which focusses (as do later instruments) on the intellectual aspects of the Perry model (positions 1-5) in three specific domains: decision-making, careers and classroom learning. Its major liabilities are its scoring system and the time and expense involved in training (Mines, 1982).

The Reflective Judgment Instrument (RJI) developed by Kitchener and King is a semi-structured interview production procedure which invites probed responses to "ill-structured problems" (Kitchener, 1977; King, 1977; 1981). Although related to Perry's intellectual development model, it measures a distinctive construct of reflective judgment, and like the MID is expensive in terms of training, time to administer, transcription and training to rate (Mines, 1982).

Two instruments developed as practical Perry measures sacrifice the reliability of production for the efficiency of objective recognition (Erwin, 1983; Parker, 1984; Baxter Magolda, 1987a). Rest (1976) notes that recognition or preference measures elicit different kind of data from production measures, in that students can recognize and prefer a reasoning structure before they can produce it. The students may be located at different positions or stages depending on the type of measure used (Hanson, 1982).

Initial reliability for the Measure of Epistemological Reflection (MER) -- which is a structured production instrument -- was supported by interrater agreement and interrater reliability results (Baxter Magolda, 1983, 1984; Baxter Magolda and Porterfield, 1988). Exact percentage agreement on total protocol ratings between the two MER authors was 63% for the derivation sample and 68% for the cross-validation sample. Initial validity was assessed through analysis of variance of MER scores across educational levels. Seven cross-sectional studies, conducted in conjunction with other investigators using the MER in various practice settings, has contributed to the reliability and validity data for the MER (Baxter Magolda passim, Baxter Magolda & Porterfield, 1988). It can be hoped that the use of the MER for research will result in a rich data base similar to the data DIT has generated for moral judgment research (Rest, 1986).

The concern about gender bias in the Perry model, a model which was derived from a predominately male set of subjects, is alleviated in part by the choice of the MER as the Perry production measure, an instrument which has revealed no gender differences at the level of structural position (Baxter Magolda, 1988). Further research by Baxter Magolda (1989a) has demonstrated gender differences of style or proportionate selection of reasoning structures consistent with the "two perspectives" delineated by Lyons (1983) and elaborated in the

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moral and intellectual domains by Gilligan (1977) and Belenky et al (1986).

(2) Development of Moral Judgment and Defining Issues Test.

The study of moral development as a domain or a manifestation of cognitive development is rooted in Piaget's observation of the moralities of constraint and of cooperation used by children (Piaget, 1965 [1932]), a line of study taken up by Kohlberg, who traced the evolution of adolescent moral judgment with a longitudinal sample of 84 boys aged 10-16 (Kohlberg & Kramer, 1969). Kohlberg's theory of the development of moral judgment involved a gradual, hierarchically arranged expansion in the social unit to which moraljudgments applied, with a related construct of justice. His model for this evolution involved three general levels -- preconventional, conventional, postconventional -- with two stages at each level. The six stage model describes the evolution of increasingly complex structures of moral judgment, including rules or decision-making procedures, interpersonal problem-solving, social perspective-taking, and the underlying logic embedded in moral choices.

From his longitudinal interviews with the adolescent boys in his sample, Kohlberg identified two stages of physical or hedonistic orientation to rules at the Preconventional Level: the Punishment/Obedience Orientation (Stage 1) and the pragmatic Instrumental exchange of favors (Stage 2). The Conventional Level is characterized by loyalty as well as conformity of personal expectations or the norms of one's larger social group, through a concern with pleasing others and being approved (Stage 3) or a concern to maintain the social order and do one's duty (Stage 4). The Postconventional Level is characterized by the intrinsic value of principled thinking disentangled from the groups or persons holding or identified with the principles, whether with reference to social utility and the social good (Stage 5) or with reference to universally consistent ethical principles (Stage 6).

The Defining Issues Test (DIT) presents a reformulation of the Kohlberg six-stage scheme based in part on two factors which emerged the interview data resulting in the DIT model of moral judgments: coordination of expectations about each other's actions and balance of interests of people in a cooperating group (Rest, 1969). Although the overall conceptualization on which the DIT is based resembles the Kohlberg scheme, there are several significant differences -- the two factors noted above, simplification of Kohlberg's rating methodology and a more complex multiple-stage profile for each subject with a range or mixture of features that more closely represents Rest's understanding of the complex, uneven and probabilistic nature of the development of moral judgment, rather than the single stage score provided by Kohlberg based on a single stage model (Rest, 1979).

Test-retest reliabilities in the high .70s or .80s were reported for the DIT across several studies and Cronbach's alpha internal consistency indices in the high .70s (Rest, 1979, 1986, 1987). The reliabilities for specific stage scores are more moderate in the .50s and .60s. Rest describes criterion validity from cross-sectional and longitudinal studies that show an unpward stage change across age and education levels not accounted for by generational or cohort effects. Rest provides impressive reliability and validity from the numerous and various studies on record which use the DIT (Rest, 1979).

For illustrative comparison, two companion stage models are reproduced here, the one from Kohlberg (1976), the other from Rest (1979).

Figure 3

TABLE 2.1 The Six Moral Stages

Level and Stage	Contents of Stage: What Is Right	Reasons for Doing Right	Social Perspective of Stage
LEVEL I—PRECONVENTIONAL Stage 1—Heteronomous Morality	To avoid breaking rules backed by punishment, obedience for its own sake, and avoiding physical damage to persons and property.	Avoidance of punishment, and the superior power of authorities.	*Egocentric point of view.* Doesn't consider the interests of others or recognize that they differ from the actor's; doesn't relate two points of view. Actions are considered physically rather than in terms of psychological interests of others. Confusion of authority's perspective with one's own.
Stage 2—Individualism, Instrumental Purpose, and Exchange	Following rules only when it is to someone's immediate interest; acting to meet one's own interests and needs and letting others do the same. Right is also what's fair, what's an equal exchange, a deal, an agreement.	To serve one's own needs or interests in a world where you have to recognize that other people have their interests, too.	*Concrete individualistic perspective.* Aware that everybody has his own interest to pursue and these conflict, so that right is relative (in the concrete individualistic sense).
LEVEL II—CONVENTIONAL Stage 3—Mutual Interpersonal Expectations, Relationships, and Interpersonal Conformity	Living up to what is expected by people close to you or what people generally expect of people in your role as son, brother, friend, etc. "Being good" is important and means having good motives, showing concern about others. It also means keeping mutual relationships, such as trust, loyalty, respect and gratitude.	The need to be a good person in your own eyes and those of others. Your caring for others. Belief in the Golden Rule. Desire to maintain rules and authority which support stereotypical good behavior.	*Perspective of the individual in relationships with other individuals.* Aware of shared feelings, agreements, and expectations which take primacy over individual interests. Relates points of view through the concrete Golden Rule, putting yourself in the other guy's shoes. Does not yet consider generalized system perspective.
Stage 4—Social System and Conscience	Fulfilling the actual duties to which you have agreed. Laws are to be upheld except in extreme cases where they conflict with other fixed social duties. Right is also contributing to society, the group, or institution.	To keep the institution going as a whole, to avoid the breakdown in the system "if everyone did it," or the imperative of conscience to meet one's defined obligations (Easily confuses with Stage 3 belief in rules and authority; see text.)	*Differentiates societal point of view from interpersonal agreement or motives.* Takes the point of view of the system that defines roles and rules. Considers individual relations in terms of place in the system.
LEVEL III—POST-CONVENTIONAL, or PRINCIPLED Stage 5—Social Contract or Utility and Individual Rights	Being aware that people hold a variety of values and opinions, that most values and rules are relative to your group. These relative rules should usually be upheld, however, in the interest of impartiality and because they are the social contract. Some nonrelative values and rights like *life* and *liberty*, however, must be upheld in any society and regardless of majority opinion.	A sense of obligation to law because of one's social contract to make and abide by laws for the welfare of all and for the protection of all people's rights. A feeling of contractual commitment, freely entered upon, to family, friendship, trust, and work obligations. Concern that laws and duties be based on rational calculation of overall utility, "the greatest good for the greatest number."	*Prior-to-society perspective.* Perspective of a rational individual aware of values and rights prior to social attachments and contracts. Integrates perspectives by formal mechanisms of agreement, contract, objective impartiality, and due process. Considers moral and legal points of view; recognizes that they sometimes conflict and finds it difficult to integrate them.
Stage 6—Universal Ethical Principles	Following self-chosen ethical principles. Particular laws or social agreements are usually valid because they rest on such principles. When laws violate these principles, one acts in accordance with the principle. Principles are universal principles of justice: the equality of human rights and respect for the dignity of human beings as individual persons.	The belief as a rational person in the validity of universal moral principles, and a sense of personal commitment to them.	*Perspective of a moral point of view from which social arrangements derive.* Perspective is that of any rational individual recognizing the nature of morality or the fact that persons are ends in themselves and must be treated as such.

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From Lawrence Kohlberg, "Moral Stages and Moralization: The Cognitive-Developmental Approach," in Thomas Lickona (Ed.), Moral Development and Behavior (Holt, Rinehart & Wins 1976), pp. 33-34.

Figure 4

Table 2.1. Stages of Moral Judgment

Stage	Coordination of expectations about actions (how rules are known and shared)	Schemes of balancing interests (how equilibrium is achieved)	Central concept for determining moral rights and responsibilities
Stage 1	The caretaker makes known certain demands on the child's behavior.	The child does not share in making rules, but understands that obedience will bring freedom from punishment.	The morality of obedience: "Do what you're told."
Stage 2	Although each person is understood to have his own interests, an exchange of favors might be mutually decided.	If each party sees something to gain in an exchange, then both want to reciprocate.	The morality of instrumental egoism and simple exchange: "Let's make a deal."
Stage 3	Through reciprocal role taking, individuals attain a mutual understanding about each other and the on-going pattern of their interactions.	Friendship relationships establish a stabilized and enduring scheme of cooperation. Each party anticipates the feelings, needs, and wants of the other and acts in the other's welfare.	The morality of interpersonal concordance: "Be considerate, nice, and kind, and you'll get along with people."
Stage 4	All members of society know what is expected of them through public institutionalized law.	Unless a society-wide system of cooperation is established and stabilized, no individual can really make plans. Each person should follow the law and do his particular job, anticipating that other people will also fulfill their responsibilities.	The morality of law and duty to the social order: "Everyone in society is obligated and protected by the law."
Stage 5	Formal procedures are institutionalized for making laws, which one anticipates rational people would accept.	Law-making procedures are devised so that they reflect the general will of the people, at the same time insuring certain basic rights to all. With each person having a say in the decision process, each will see that his interests are maximized while at the same time having a basis for making claims on other people.	The morality of societal consensus: "You are obligated by whatever arrangements are agreed to by due process procedures."
Stage 6	The formal requirements of non-arbitrary cooperation among rational, equal, and impartial people are taken as ideal criteria for social organization which one anticipates rational people would accept.	A scheme of cooperation that negates or neutralizes all arbitrary distribution of rights and responsibilities is the most equilibrated, for such system is maximizing the simultaneous benefit to each member so that any deviation from these rules would advantage some members at the expense of others.	The morality of non-arbitrary social cooperation: "How rational and impartial people would organize cooperation is moral."

From James R. Rest, Development in Judging Moral Issues (University of Minnesota Press, 1979), pp. 22-23.

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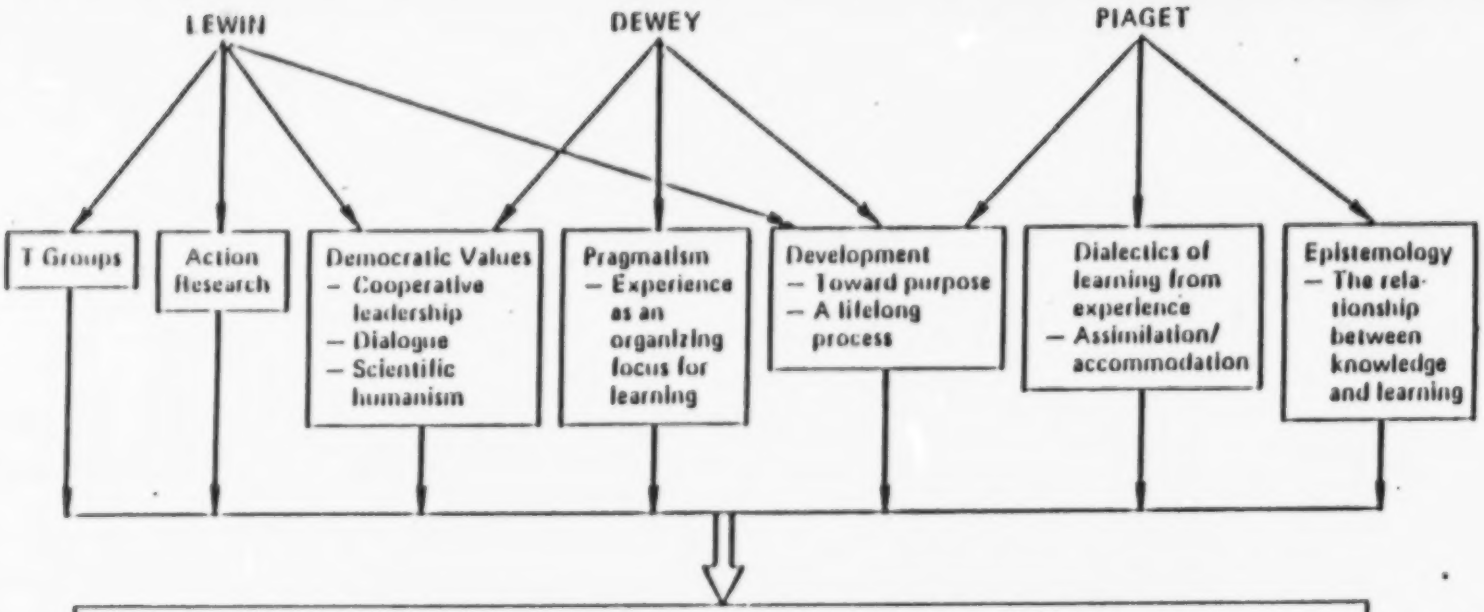
(3) The 1985 Learning-Style Inventory (LSI 1985)

The LSI 1985 User's Guide reports high internal consistency, with Cronbach's alpha coefficients from .73 - .88 for the four basic and two combination scales. Split-half reliability with the original LSI on the same sample ranged from .75 - .81 (Smith & Kolb, 1985). It also provides scale norms and demographic analysis derived from a large ethnically diverse sample, balanced for gender and distributed for age, education and career fields.



CONTEMPORARY APPLICATIONS OF EXPERIENTIAL LEARNING THEORY

Social Policy and Action	Competence Based Education	Lifelong Learning and Career Development	Experiential Education	Curriculum Development
Access and influence on the symbolic/ technological culture for: – Minorities – The poor – Blue collar workers – Women – Developing countries – The arts	– Assessment of prior learning – Assessment centers – Competence-centered curricula	– The nonuniversity education industry – Adult development programs in higher education – Integration of learning and work	– Co-op education – Internships – Simulations – Experiential exercises – On the job training/learning	– Implementation of Bruner's manifesto: "Any subject can be respectably taught at any level."

Figure 1.2 Three Traditions of Experiential Learning

From David Kolb, Experiential Learning: Experience as the Source of Learning and Development Prentice-Hall, 1984 p.17

Figure 6

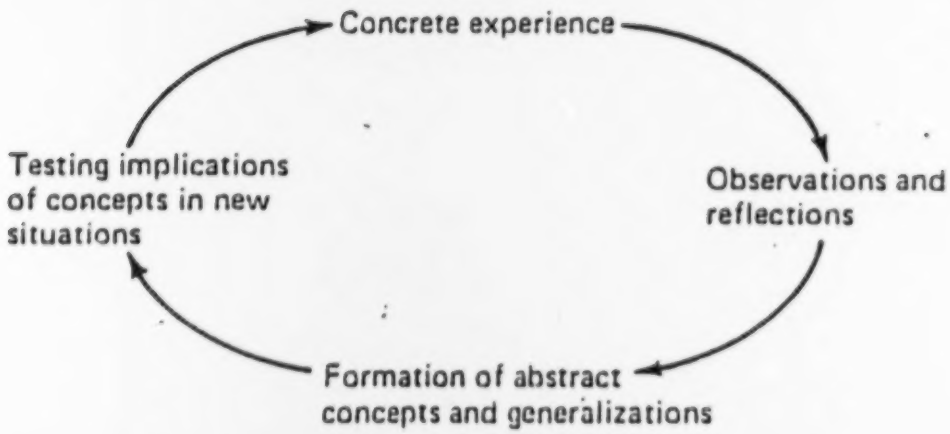

Concrete experience
Observations and reflections
Formation of abstract concepts and generalizations
Testing implications of concepts in new situations

Figure 2.1 The Lewinian Experiential Learning Model

From David Kolb, Experiential Learning: Experience as the Source of Learning and Development. Prentice Hall, 1984 p.21

Figure 7

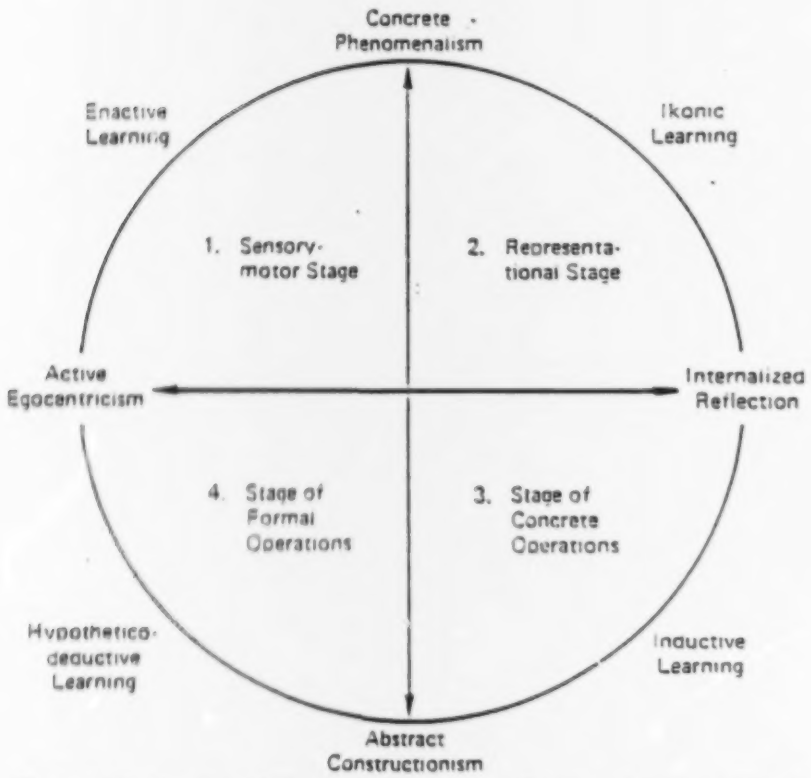


Figure 2.3 Piaget's Model of Learning and Cognitive Development

From David Kolb, Experiential Learning: Experience as the Source of Learning and Development. Prentice Hall, 1984 p.25

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Figure 8

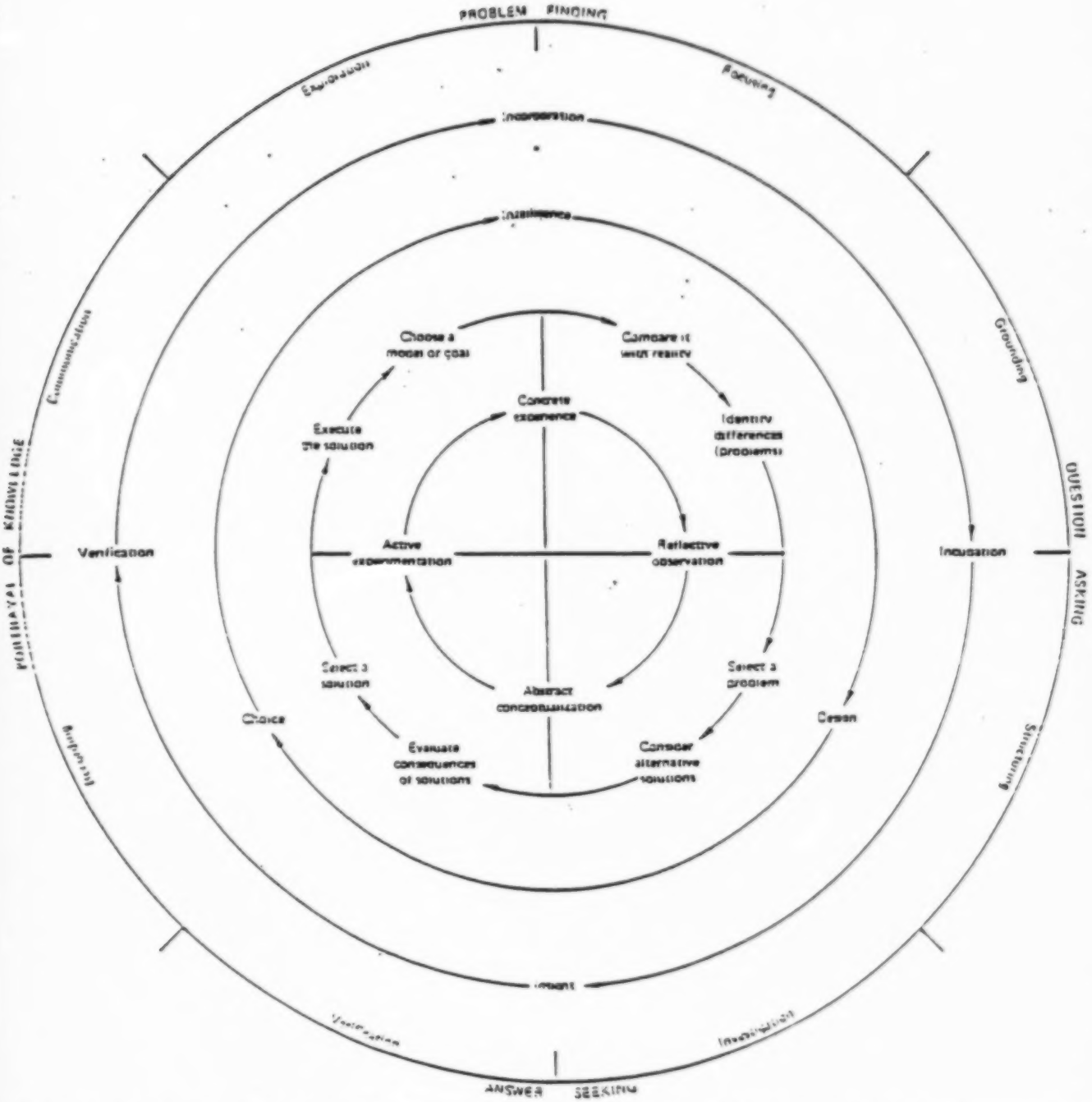

Figure 2.4 Similarities Among Conceptions of Basic Adaptive Processes: Inquiry/Research, Creativity, Decision Making, Problem Solving, Learning

From David Kolb, Experiential Learning: Experience as the Source of Learning and Development. Prentice Hall, 1984. p. 33

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(4) The Index of Homophobia (IHP).

Reliability was examined by computing coefficient alpha, which was found to be .901, and by also computing the standard error of measurement which was found to be 4.75 (Hudson & Ricketts, 1980). The authors claim high reliability and low SEM for the IHP (Hudson & Ricketts, 1980). Construct validity was examined using several criterion variables. The authors believed that persons who were conservative in their attitudes toward the expression of sexuality would tend to be more homophobic than persons more liberal in their attitudes. They used scores derived from their subjects' Sexual Attitude Scale (SAS, Hudson & Murphy 1978) to examine the validity of the IHP and found a correlation of .53, significant at $p < .001$, examined correlates to indicators of personal distress in personal relationships, and examined factoral validity (each item show higher correlations with the IHP total score than with the SAS total (Hudson & Murphy, 1980).

Alexander, P. & Judy, J. (1988) "The Interaction of Domain-Specific and Strategic Knowledge in Academic Performance." Review of Educational Research, 58 (4): 375-404.

Baxter Magolda, M. [Taylor, M.B.] (1983) "The Development of the Measure of Epistemological Reflection." Dissertation Abstracts International, 44, 1065A. (University Microfilms No. DA83-18, 44).

Baxter Magolda, M. (1984) "Construction and Preliminary Validation of the Measure of Epistemological Reflection." Paper presented at the meeting of the National Association of Student Personnel Administrators. Louisville, Kentucky.

Baxter Magolda, M. (1987a) "A Rater-Training Program for Assessing Intellectual Development on the Perry Scheme." Journal of College Student Personnel. 28(5): 356-364.

Baxter Magolda, M. (1987b). "Comparing open-ended interviews and standardized measures of intellectual development." Journal of College Studer. Personnel. 28: 443-448.

Baxter Magolda, M. (1989a) "Epistemological Development: An Analysis of Gender Differences." Paper Presented at Fourth Annual Symposium on Adult Development. Harvard University.

Baxter Magolda, M. (1989b) "Gender Differences in Cognitive Development: An Analysis of Cognitive Complexity and Learning Styles." Journal of College Student Development, 30, 213-220.

Baxter Magolda, M. & Porterfield, W.D. (1985). "A new approach to assess intellectual development on the Perry scheme." Journal of College Student Personnel. 26 (4), 343-351.

Baxter Magolda, M. & Porterfield, W.D. (1988). Assessing intellectual development: The link between theory and practice. Alexandria, VA: American College Personnel Association.

Belenky, M., Clinchy, B., Goldberger, N. & Tarule, J. (1986). Women's Ways of Knowing. New York: Basic Books.

Benack, S. (1984) "Postformal Epistemologies and the Growth of Empathy." In Commons, M., F. Richards, C. Armon (Eds.). Beyond Formal Operations: Late Adolescent and Adult Cognitive Development. New York: Praeger.

BEST COPY AVAILABLE

Brown, R. (1972) Student Development in Tomorrow's Higher Education: A Return to the Academy. (Monograph no. 16.) Washington, D.C.: American College Personnel Monograph Series.

Clinchy, B. (1981) "A Longitudinal Study of the Cognitive Development of Women." Paper presented to the Perry Conference. St. Paul, Minnesota.

Clinchy, B. & C. Zimmerman (1982). "Epistemology and Agency in the Development of Undergraduate Women." In P. Prun (Ed.), The Undergraduate Woman: Issues in Educational Equity. Lexington, MA., Heath.

Denzin, N. (1978) "The logic of naturalistic inquiry." In N. Denzin (Ed.), Sociological Methods: A Sourcebook. New York: McGraw-Hill.

Denzin, N. (1978). The Research Act. New York: McGraw-Hill.

Erwin, T. (1983) "The Scale of Intellectual Development: Measuring Perry's scheme." Journal of College Student Personnel, 24: 6-12.

Fischer, K. (1980) "A Theory of Cognitive Development: The Control and Construction of Hierarchies of Skills," Psychological Review, 87: 477-531.

Fischer, K., H. Hand & S. Russell (1984) "The Development of Abstractions in Adolescence and Adulthood." In M. Commons, F. Richards & C. Armon (Eds.), Beyond Formal Operations: Late Adolescent and Adult Cognitive Development. New York: Praeger.

Fischer, K. & S. Lamborn (1988) "Mechanisms of Variation in Developmental Levels: Cognitive and Emotional Transitions during Adolescence." In press.

Gilligan, C. (1977) "In a Different Voice: Women's Conceptions of Self and Morality." Harvard Educational Review, 47: 481-517.

Gilligan, C. (1981) "Moral Development." In Chickering, A. (Ed.), The Modern American College. San Francisco: Jossey Bass.

Gilligan, C. & Murphy, J. (1979) "The Philosopher and the Dilemma of the Fact: Evidence for Continuing Development from Adolescence to Adulthood." In D. Kuhn (Ed.), Intellectual Development Beyond Childhood: New Directions for Child Development, No. 5. San Francisco: Jossey Bass

Hanson, G. (1982) "Critical Issues in the Assessment of Student Development." In G. Hanson (Ed.), Measuring Student Development. New Directions for Student Services, No. 20. San Francisco: Jossey Bass.

Hudson, W. & Murphy, G. Liberal vs. conservative orientations toward human sexual expressions. Honolulu: University of Hawaii School of Social Work, 1978.

Hudson, W. & Ricketts, W. (1980) "A Strategy for the Measurement of Homophobia." Journal of Homosexuality, 5(4): 357-372.

Jackson, B. & Hardiman, R. (1988) "Oppression: A Conceptual and Developmental Analysis." In M. Adams & L. Marchesani (Eds.), Racial and Cultural Diversity: Curricular Content and Classroom Dynamics. Amherst, Mass.: University of Massachusetts.

Kegan, R. (1982) The Evolving Self. Cambridge, Mass.: Harvard University Press.

King, P. (1977) "The Development of Reflective Judgment and Formal Operational Thinking in Adolescents and Young Adults." Doctoral dissertation, University of Minnesota, 1977.

Kitchener, K. (1977) "Intellectual Development in Late Adolescents and Young Adults: Reflective Judgment and Verbal Reasoning." Doctoral dissertation, University of Minnesota, 1977.

Kitchener, K. (1982) "Human Development and the College Campus: Sequences and Tasks." In G. Hanson (Ed.), Measuring Student Development: New Directions for Student Services, No. 20. San Francisco: Jossey Bass.

Kitchener, K and P. King (1981) "Reflective Judgment: Concepts of Justification and their Relationship to Age and Education." Journal of Applied Developmental Psychology, 2: 89-116.

Knefelkamp, L. (1974) "Developmental Instruction: Fostering Intellectual and Personal Growth of College Students." Dissertation Abstracts International, 36, 127A. (University Microfilms No. 75-21, 059).

Knefelkamp, L., Widick, C., & Parker, C. (1978) Applying New Developmental Findings. New Directions for Student Services. San Francisco: Jossey-Bass.

Kohlberg, L. (1969). "Stage and sequence: The cognitive developmental approach to socialization." In D. Goslin (Ed.), Handbook of Socialization Theory and Research. New York: Rand McNally.

BEST COPY AVAILABLE

Kohlberg, L. & Kramer, R. (1969). "Continuities and discontinuities in child and adult moral development." Human Development, 12: 93-120.

Kohlberg, L. (1976). "Moral Stages and Moralization: The Cognitive-Developmental Approach." In T. Lickona (Ed.), Moral Development and Behavior: Theory, Research, and Social Issues. New York: Holt, Rinehart & Winston.

Kolb, D. (1981) "Learning Styles and Disciplinary Differences." In Chickering, A. (Ed)., The Modern American College. San Francisco: Jossey-Bass.

Kolb, D. (1984). Experiential Learning: Experience as the Source of Learning and Development. Englewood Cliffs: Prentice-Hall.

Kolb, D. (1985). Learning Style Inventory. Boston: McBer & Co.

Kurfiss, J. (1975) "Late Adolescent Development: A Structural Epistemological Perspective." Doctoral Dissertation, University of Washington.

Kurfiss, J. (1977) "Sequentiality and Structure in a Cognitive Model of College Student Development." Developmental Psychology, 13: 565-571.

Lewin, K. (1951) Field Theory in Social Sciences. New York, Harper and Row.

Lyons, N. (1983) "Two Perspectives: On Self, Relationships, and Morality." Harvard Educational Review, 53: 125-146.

Mentkowski, M., M. Moeser & M.J. Strait. (1983) Using the Perry Scheme of Intellectual and Ethical Development as a College Outcomes Measure: A Process and Criteria for Judging Student Performance, Volume I. Milwaukee, Wisconsin: Alverno College Office of Research and Evaluation.

Mines, R. (1982) "Student Development Assessment Techniques." In Hanson, G. (Ed.), Measuring Student Development. New Directions for Student Services, No. 20. San Francisco: Jossey Bass.

Parker, J. (1984) "The preliminary investigation of the validity and reliability of the Parker Cognitive Development Inventory. Dissertation Abstracts International, 45, 2849a. (University Microfilms N. DA 84-28, 277).

Perkins, D. & Salomon, G. (1989) "Are Cognitive Skills Context-Bound?" Educational Researcher, 18(1): 16-25.

Patton, M. (1980). Qualitative Evaluation Methods. Beverly Hills: Sage.

Perry, William G., Jr. (1981) "Cognitive and Ethical Growth: The Making of Meaning." In Chickering, A. (Ed.), The Modern American College. San Francisco: Jossey Bass.

Perry, William G., Jr. (1970) Forms of Intellectual and Ethical Development in the College Years. New York: Holt, Rinehart & Winston.

Piaget, J. (1977) The Development of Thought: Equilibration of Cognitive Structures. New York: Viking.

Piaget, J. (1972) "Intellectual Evolution from Adolescence to Adulthood." Human Development, 15 (1): 1-12,

Piaget, J. (1965 [1932]) The Moral Judgment of the Child. New York: Free Press.

Rest, J. (1973) "The hierarchical nature of moral judgment." Journal of Personality, 41: 86-109.

Rest, J. (1976) "New Approaches in the Assessment of Moral Development." In T. Lickona (Ed.), Moral Development and Behavior. New York: Holt, Rinehart, and Winston.

Rest, J. (1979) Development in Judging Moral Issues. Minneapolis: University of Minnesota Press.

Rest, J. (1986) Moral Development: Advances in Research and Theory. New York: Praeger.

Rest, J. (1987) Guide to the Defining Issues Test. Minneapolis: Center for the study of Ethical Development.

Rodgers, R. (1980) "Theories Underlying Student Development." In Creamer, D. (Ed.), Student Development in Higher Education. Cincinnati: American College Personnel Association Media Publication 27.

Rose, S. & Fischer, K. (1989) Constructing Task Sequences: A Structured Approach to Skill Theory. Draft manual, Cognitive Development Laboratory, Harvard University.

Sanford, N. (1966) Self and Society: Social Change and Individual Development. New York: Atherton Press.

Selman, R. (1980) The Growth of Interpersonal Understanding: Developmental and Clincal Analyses. New York: Academic Press.

BEST COPY AVAILABLE

Selman, R. (1976) "Social-Cognitive Understanding: A Guide to Educational and Clinical Practice." In T.Lickona (Ed.), Moral Development and Behavior. New York: Holt, Rinehart.

Smith, A. (1978) "Lawrence Kohlberg's cognitive stage theory of the development of moral judgment." In Knefelkamp, L. et al (Eds.), Applying New Developmental Findings. New Directions for Student Services No. 4. San Francisco: Jossey Bass.

Smith, D. & Kolb, D. (1986) Learning-Style Inventory: User's Guide. McBer & Co., Boston.

Stephenson, B. & C. Hunt. (1977) "Intellectual and Ethical Development: A dualistic curriculum intervention for college students." Counseling Psychologist, 6(4): 39-42.

Strange, C. (1978) "Intellectual Development, Motive for Education and Learning Styles during the College Years: Comparison of Adult and Traditional Age Students." Dissertation Abstracts International, 39, 4768A.

Thoma, S. (1984) "Estimating Gender Differences in the Comprehension and Preference of Moral Issues." Unpublished manuscript. Minneapolis: University of Minnesota.

Turiel, E. (1974) "Conflict and Transition in Adolescent Moral Development. Child Development, 45 (1): 14.

Turiel, E. (1972) "Stage Transition in Moral Development." In E. Travers (Ed.), Second Handbook of Research on Teaching. Chicago: Ran McNally.

Weinstein, G. (1988) "Design Elements for Intergroup Awareness Training." Journal for Specialists in Group Work,13: 96-103.

Weinstein, G. & Alschuler, A. (1985) "Educating and Counseling for Self-Knowledge Development." Journal of Counseling and Development, 64: 19-25.

Weinstein, G. & Bell, L. (1985) "Anti-Oppression Education: Instructional Issues." Unpublished manuscript, University of Massachusetts.

Widick, C. (1975) "An Evaluation of Developmental Instruction in a University Setting." Dissertation Abstracts International, 36, 2041A (University Microfilms No.75-21, 101)

Widick, C. & Simpson, D. (1978) "Developmental Concepts in College Instruction." In C. Parker (Ed.), Encouraging Development in College Students. Minneapolis: University of Minnesota.